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DR-376  
November 1968

AD

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METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV, SR-077  
(24 October 1968)

BY

GEORGE M. FUGATE

ATMOSPHERIC SCIENCES RESEARCH OFFICE  
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

DEC 16 1968

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DA Task 1T665702D127-02

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# ABSTRACT

Meteorological data gathered for the launching of Nike-Huac STV, SR-077, are presented for the Space and Missile Systems Organization, AFMDC, Holloman Air Force Base, New Mexico, and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.

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## INTRODUCTION

Nike-Hydac STV, SR-077, was launched from Launch Complex 33, L-314, White Sands Missile Range (WSMR), New Mexico, at 0703 hours MDT, 24 October 1968.

Meteorological data used in conjunction with theoretical calculations to predict rocket impact were collected by the Meteorological Support Technical Area, Atmospheric Sciences Research Office, WSMR, New Mexico. The Ballistics Meteorologists for this firing were Harold M. Richart and George M. Fugate.

## DISCUSSION

Wind data for the first 216 feet above the surface were obtained from a system composed of five Aerovanes mounted on a 200-foot tower and cabled to two component wind indicators for each level.

From 216 to 4,000 feet above the surface, wind data were obtained from T-9 radar-tracked balloon ascents.

Temperature, pressure, and humidity data, along with upper wind data from 4,000 to 100,000 feet above the surface, were obtained from standard rawinsonde observations.

Mean wind component values in each ballistic zone were determined from vertical cross sections by the equal-area method.

Theoretical rocket performance values and ballistic factors as a function of altitude were provided by Meteorological Support Technical Area, WSMR, New Mexico, and are the basis for data appearing in Table I.

PAYLOAD		217	Pounds
CORIOLIS DISPLACEMENT	WEST	4.9	Miles
SECOND-STAGE IGNITION	TIME	20.0	Seconds
	ALTITUDE	35,760	Feet MSL
PEAK	TIME	236	Seconds
	ALTITUDE	716,000	Feet MSL
UNIT WIND EFFECT	HEAD	2.158	Miles/MPH
	CROSS	2.244	Miles/MPH
	TAIL	2.167	Miles/MPH
TOWER TILT EFFECT		14.5	Miles/Degree

TABLE I. THEORETICAL ROCKET PERFORMANCE VALUES  
NIKE-HYDAC STV, SR-077

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
15- 60	.126
60- 108	.084
108- 148	.053
148- 184	.041
184- 216	.026
216- 300	.062
300- 400	.058
400- 600	.072
600- 800	.058
800-1000	.039

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
1000- 1400	.063
1400- 2000	.066
2000- 2500	.035
2500- 3000	.028
3000- 3500	.014
3500- 4000	.005
4000- 4160	-.003
4160- 9000	-.014
9000-15000	-.017
15000-21000	-.016

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
21000-26000	..013
26000-31770	-.016
31770-36000	.129
36000-41000	.057
41000-46000	.026
46000-51000	.015
51000-56000	.010
56000-61000	.006
61000-66000	.004
66000-69330	.002

TABLE II. BALLISTIC FACTORS  
NIKE-HYDAC STV, SR-077



MEAN WIND COMPONENTS IN MILES PER HOUR										
AERO- VANE NO. *	1 0507 MDT		2 0517 MDT		3 0552 MDT		4 0610 MDT		5 0620 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	11.0S	3.0E	15.0S	3.0W	10.0S	2.0W	8.0S	3.0W	10.0S	5.0W
2	15.0	2.0	18.0	3.0	12.0	4.0	12.0	5.0	11.0	6.0
3	19.0	2.0	18.0	0.0	14.0	3.0	14.0	3.0	14.0	4.0
4	19.0	1.0	18.0	0.0	15.0	2.0	14.0	4.0	14.0	1.0
5	20.0	1.0	22.0	1.0	17.0	2.0	16.0	3.0	12.0	2.0

AERO- VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR							
	6 0630 MDT		7 0640 MDT		8 0650 MDT		9 0705 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	8.0S	4.0W	8.0S	0.0	8.0S	2.0W	6.0S	4.0W
2	10.0	6.0	10.0	1.0W	9.0	4.0	9.0	5.0
3	12.0	5.0	8.0	0.0	10.0	3.0	10.0	4.0
4	12.0	6.0	9.0	0.0	12.0	3.0	10.0	4.0
5	15.0	5.0	13.0	2.0E	12.0	2.0	12.0	4.0

TABLE III. ANEMOMETER WIND SPEED AND DIRECTION  
NIKE-HYDAC STV, SR-077

\* Heights corresponding to Aerovane Numbers: 1 = 35 Feet 3 = 128 Feet 5 = 200 Feet  
2 = 88 Feet 4 = 168 Feet

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR									
	1		2		3		4		5	
	0507 MDT		0517 MDT		0552 MDT		0610 MDT		0620 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
216- 300	19.0S	1.5E	21.5S	0.0	16.5S	0.5W	16.0S	3.0W	11.0S	2.0W
300- 400	18.0	2.5	20.5	3.0E	16.0	2.0E	16.5	1.0	11.5	4.0
400- 600	15.0	4.0	19.5	7.5	15.5	6.0	17.5	4.0E	14.0	3.0E
600- 800	14.0	6.5	18.0	13.5	14.5	10.5	14.0	7.0	11.5	10.0
800-1000	9.0	8.0	12.5	21.0	13.5	15.0	11.5	11.0	11.5	15.0
1000-1400	6.0	11.0	8.0	23.0	11.5	21.0	11.5	22.0	11.5	21.0
1400-2000	8.0	15.5	5.0	23.0	9.0	28.0	12.5	27.0	12.5	26.0
2000-2500	4.0	17.5	3.0	24.5	11.0	21.0	11.0	19.0	15.5	24.0
2500-3000	2.0	19.5	3.5	18.5	7.0	15.0	7.5	12.0	11.0	11.0
3000-3500	1.0N	15.0	4.0	14.0	8.5	10.0	7.5	7.0	7.0	5.0
3500-4000	2.0S	10.0	7.0	6.5	6.5	2.0	6.0	5.0	7.0	4.0

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA  
NIKE-HYDAC STV, SR-077

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR									
	6		7		8		9			E-W
	0630 MDT		0640 MDT		0650 MDT		0705 MDT			
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W		
216- 300	15.0S	5.0W	13.0S	2.0E	12.0S	2.0W	12.0S	4.0W		
300- 400	13.0	4.0	11.0	1.0	12.0	2.0	11.5	3.5		
400- 600	13.5	3.0	11.5	2.0	12.5	2.0	11.0	0.0		
600- 800	15.5	4.0E	12.0	1.0	13.5	3.0	10.0	5.0		
800-1000	17.0	10.0	11.0	5.0	10.0	6.0	9.5	9.0		
1000-1400	13.0	19.0	11.5	15.0	12.0	11.0	10.5	12.0		
1400-2000	13.5	26.0	11.5	26.0	12.5	22.0	12.0	23.0		
2000-2500	15.5	24.0	16.5	24.0	17.0	24.0	17.5	23.0		
2500-3000	12.5	15.0	15.0	15.0	16.5	18.0	16.5	14.0		
3000-3500	8.5	6.0	13.0	10.0	12.5	9.0	12.0	9.0		
3500- 000	7.5	4.0	8.5	4.0	7.5	6.0	8.5	5.0		

TABLE IV. PILOT-BALLOON-RECORDED WIND DATA (CONT)  
NIKE-HYDAC STV, SR-077

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN KNOTS					
	1		2			
	0730 MDT		0705 MDT			
	N-S	E-W	N-S	E-W	N-S	E-W
4000-4160	5.58	4.38	1.5N	8.0E		
160-9000	0.0	8.0W	10.5	6.0W		
9000-15000	13.0N	5.0	17.0	6.0		
15000-21000	21.5	8.0	26.0	0.0		
21000-26000	25.0	9.0	31.0	0.0		
26000-31770	31.5	5.5E	32.5	5.5E		
31770-36000	31.5	26.5E	32.0	18.5		
36000-41000	36.5	21.0	34.0	19.5		
41000-46000	31.5	5.5W	40.0	0.0		
46000-51000	29.5	5.0	32.0	0.0		
51000-56000	16.5	3.0	17.0	0.0		
56000-61000	8.0	1.5E	13.0	2.5E		
61000-66000	5.0	3.0W	3.5	2.0		
66000-69330	5.0	0.0	2.5E	1.5		

TABLE V. RAWINSONDE-MEASURED WIND DATA  
NIKE-HYDAC STV, SR-077

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 68  
ASCENSION NO. 867

SIGNIFICANT LEVEL DATA  
0820003904  
WHITE SANDS SITE

WSTM SITE COORDINATES  
488280.00 FEET E  
185045.00 FEET N

TABLE VI

PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM.
MILLIBARS	MSL FEET	AIR DEGREES	DEWPOINT CENTIGRADE	
885.3	3989.0	11.8	-3.6	34.0
875.0	4311.0	13.0	-2.1	35.0
850.0	5108.1	11.3	-3.2	36.0
826.0	5895.0	12.5	-3.3	33.0
732.0	9180.9	7.0	-7.8	34.0
710.0	10012.8	7.0	-8.6	32.0
648.0	12452.8	0.9	-12.9	35.0
616.0	13789.1	0.4	-14.1	33.0
530.0	17762.8	-6.5	-19.5	35.0
422.0	23429.1	-18.2	-31.3	31.0
304.0	31160.1	-38.9	-50.1	30.0
220.0	38180.7	-57.1	0.	-0. **
172.0	43159.3	-69.9	0.	-0. **
144.0	46640.0	-70.5	0.	-0. **
132.0	48334.2	-72.5	0.	-0. **
130.0	48630.1	-72.5	0.	-0. **
124.0	49557.2	-67.5	0.	-0. **
91.0	55694.2	-68.1	0.	-0. **
82.0	57785.1	-62.7	0.	-0. **
71.0	60695.0	-65.6	0.	-0. **
47.0	69137.0	-57.4	0.	-0. **
40.0	72486.7	-59.6	0.	-0. **
37.0	74108.8	-56.8	0.	-0. **
33.0	76492.4	-59.1	0.	-0. **
29.0	79194.4	-55.3	0.	-0. **
11.0	99917.0	-49.6	0.	-0. **

\*\* RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68 0350 HRS MDT  
ASCENSION NO. 867

UPPER AIR DATA  
0820003904  
WHITE SANDS SITE

WSTM SITE COORDINATES  
488580.00FEET E  
185045.00FEET N

TABLE VII

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	885.3	11.8	-3.6	34.0	1080.3	657.9	210.0	7.0	1.000263
4000.0	884.9	11.8	-3.5	34.0	1079.7	658.0	209.5	7.0	1.000263
4500.0	869.0	12.6	-2.4	35.2	1057.2	658.9	184.8	8.2	1.000259
5000.0	853.3	11.5	-3.1	35.9	1042.1	657.7	160.2	9.3	1.000255
5500.0	838.0	11.9	-3.3	34.5	1022.0	658.1	135.6	10.5	1.000250
6000.0	822.8	12.3	-3.5	33.0	1022.1	658.6	111.0	11.7	1.000245
6500.0	807.9	11.5	-4.2	33.2	986.8	657.6	112.5	11.2	1.000241
7000.0	793.2	10.7	-4.8	33.3	971.8	656.6	115.3	10.6	1.000237
7500.0	778.8	9.8	-5.5	33.5	957.0	655.6	119.4	9.5	1.000232
8000.0	764.6	9.0	-6.2	33.6	942.5	654.7	127.7	7.6	1.000228
8500.0	750.7	8.2	-6.9	33.8	928.1	653.7	141.0	4.6	1.000224
9000.0	737.1	7.3	-7.6	33.9	914.0	652.7	213.7	3.5	1.000220
9500.0	723.6	7.0	-8.1	33.2	898.4	652.3	296.0	3.5	1.000216
10000.0	710.3	7.0	-8.6	32.0	881.9	652.3	305.0	6.3	1.000212
10500.0	697.2	5.8	-9.4	32.6	869.4	650.8	309.6	8.7	1.000208
11000.0	684.2	4.5	-10.3	33.2	857.2	649.4	309.7	10.6	1.000205
11500.0	671.5	3.3	-11.2	33.8	845.2	647.9	311.9	12.0	1.000201
12000.0	659.1	2.0	-12.1	34.4	833.3	646.4	314.6	13.2	1.000198
12500.0	646.8	0.9	-12.9	34.9	821.3	645.0	318.5	12.6	1.000194
13000.0	634.7	0.7	-13.4	34.2	806.5	644.8	322.3	12.4	1.000191
13500.0	622.8	0.5	-13.8	33.4	791.9	644.5	326.0	13.4	1.000187
14000.0	611.0	0.0	-14.3	33.1	778.3	644.0	329.5	13.8	1.000184
14500.0	599.4	-0.9	-15.0	33.4	766.0	642.9	332.8	13.7	1.000180
15000.0	588.0	-1.7	-15.7	33.6	753.9	641.9	333.9	14.1	1.000177
15500.0	576.8	-2.6	-16.4	33.9	742.0	640.8	334.5	14.5	1.000174
16000.0	565.8	-3.5	-17.1	34.1	730.3	639.7	335.4	13.3	1.000171
16500.0	555.1	-4.4	-17.8	34.4	718.8	638.7	337.8	12.3	1.000168
17000.0	544.5	-5.3	-18.5	34.6	707.5	637.6	342.4	11.8	1.000165
17500.0	534.1	-6.1	-19.2	34.9	696.3	636.6	346.2	12.0	1.000162
18000.0	523.8	-7.1	-20.1	34.8	685.3	635.4	349.4	12.7	1.000159

UPPER AIR DATA  
0820003904  
WHITE SANDS SITE

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT 68 0350 HRS MDT  
ASCENSION NO. 867

WSM SITE COORDINATES  
488580.00FEET E  
185045.00FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
18500.0	513.4	-8.1	34.4	674.5	634.2	352.0	14.3	1.000156
19000.0	503.3	-9.2	34.1	653.8	632.9	354.4	16.1	1.000153
19500.0	493.4	-10.2	33.7	653.2	631.7	351.8	17.4	1.000151
20000.0	483.7	-11.2	33.4	642.9	630.4	348.5	18.6	1.000148
20500.0	474.2	-12.2	33.0	632.7	629.2	344.5	20.1	1.000145
21000.0	464.8	-13.2	32.7	622.7	627.9	340.5	21.4	1.000143
21500.0	455.7	-14.3	32.3	612.9	626.7	336.6	21.9	1.000140
22000.0	446.7	-15.3	32.0	603.2	625.4	333.2	21.3	1.000138
22500.0	437.9	-16.3	31.6	593.7	624.2	330.9	18.8	1.000135
23000.0	429.3	-17.3	31.3	584.4	622.9	331.2	19.2	1.000133
23500.0	420.7	-18.4	31.0	575.2	621.6	334.6	22.9	1.000131
24000.0	411.9	-19.7	30.9	556.1	620.0	337.6	24.8	1.000128
24500.0	403.3	-21.1	30.9	557.2	618.3	340.3	25.7	1.000126
25000.0	394.8	-22.4	30.8	548.4	616.7	341.2	29.3	1.000124
25500.0	386.5	-23.7	30.7	539.8	615.0	341.6	33.2	1.000122
26000.0	378.4	-25.1	30.7	531.3	613.3	340.1	29.6	1.000120
26500.0	370.5	-26.4	30.6	523.0	611.7	338.8	26.6	1.000118
27000.0	362.7	-27.8	30.5	514.8	610.0	337.6	26.5	1.000116
27500.0	355.1	-29.1	30.5	506.8	608.3	337.1	26.5	1.000114
28000.0	347.6	-30.4	30.4	498.9	606.7	337.9	26.5	1.000112
28500.0	340.3	-31.8	30.3	491.2	605.0	339.1	26.0	1.000110
29000.0	333.2	-33.1	30.3	483.6	603.3	340.7	27.4	1.000108
29500.0	326.2	-34.5	30.2	476.1	601.6	342.8	28.0	1.000107
30000.0	319.3	-35.8	30.2	468.7	599.9	345.6	28.5	1.000105
30500.0	312.6	-37.1	30.1	451.5	598.2	348.5	28.9	1.000103
31000.0	306.1	-38.5	30.0	454.4	596.5	351.7	29.0	1.000102
31500.0	299.3	-39.8	28.5**	446.8	594.9	356.1	29.5	1.000100
32000.0	292.5	-41.1	26.4**	439.1	593.2	1.5	30.2	1.000098
32500.0	285.8	-42.4	24.3**	431.5	591.5	6.9	30.6	1.000096
33000.0	279.3	-43.7	22.1**	424.0	589.9	12.2	30.8	1.000095

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA  
0820003904  
WHITE SANDS SITE

STATION ALTITUDE 3900.00 FEET MSL  
24 OCT. 68 0350 HRS MDT  
ASCENSION NO. 867

WSTM SITE COORDINATES  
488580.00FEET E  
185045.00FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
33500.0	272.9	-45.0	-58.8	20.0**	416.7	588.2	16.8	31.7	1.000093
34000.0	266.7	-46.3	-60.8	17.9**	409.6	586.5	20.9	33.1	1.000091
34500.0	260.6	-47.6	-62.8	15.7**	402.6	584.8	23.6	34.1	1.000090
35000.0	254.7	-48.9	-65.0	13.6**	395.7	583.2	25.1	34.9	1.000088
35500.0	248.9	-50.2	-67.3	11.5**	388.9	581.5	26.0	35.6	1.000087
36000.0	243.2	-51.4	-69.8	9.3**	382.3	579.8	25.9	36.4	1.000085
36500.0	237.7	-52.7	-72.6	7.2**	375.8	578.1	25.9	37.1	1.000084
37000.0	232.3	-54.0	-76.0	5.0**	369.4	576.4	26.5	37.5	1.000082
37500.0	227.0	-55.3	-80.4	2.9**	363.1	574.7	27.1	37.9	1.000081
38000.0	221.8	-56.6	-88.9	0.8**	357.0	573.0	27.9	39.0	1.000079
38500.0	216.6	-57.9	0.	-0. **	350.6	571.2	28.6	40.3	1.000078
39000.0	211.3	-59.2	0.	-0. **	344.1	569.5	29.7	40.6	1.000077
39500.0	206.1	-60.5	0.	-0. **	337.7	567.8	30.9	40.7	1.000075
40000.0	201.1	-61.8	0.	-0. **	331.4	566.1	30.9	40.7	1.000074
40500.0	196.2	-63.1	0.	-0. **	325.3	564.4	30.9	40.6	1.000072
41000.0	191.4	-64.5	0.	-0. **	319.3	562.7	29.7	40.3	1.000071
41500.0	186.7	-65.6	0.	-0. **	313.5	560.9	28.6	40.0	1.000070
42000.0	182.1	-66.9	0.	-0. **	307.7	559.2	25.7	40.0	1.000069
42500.0	177.7	-68.2	0.	-0. **	302.1	557.4	22.5	40.1	1.000067
43000.0	173.4	-69.5	0.	-0. **	296.6	555.7	19.5	40.4	1.000066
43500.0	169.0	-70.0	0.	-0. **	289.8	555.0	16.9	41.1	1.000065
44000.0	164.8	-70.0	0.	-0. **	282.7	554.9	14.3	41.9	1.000063
44500.0	160.6	-70.1	0.	-0. **	275.7	554.8	12.6	40.5	1.000061
45000.0	156.6	-70.2	0.	-0. **	268.8	554.7	11.1	38.8	1.000060
45500.0	152.6	-70.3	0.	-0. **	262.2	554.6	8.8	37.1	1.000058
46000.0	148.8	-70.4	0.	-0. **	255.7	554.5	3.3	35.2	1.000057
46500.0	145.0	-70.5	0.	-0. **	249.3	554.3	357.8	33.4	1.000056
47000.0	141.4	-70.9	0.	-0. **	243.6	553.7	352.0	31.7	1.000054
47500.0	137.8	-71.5	0.	-0. **	238.1	552.9	345.8	30.0	1.000053
48000.0	134.3	-72.1	0.	-0. **	232.7	552.1	339.6	28.4	1.000052

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 3984.00 FEET MSL

24 OCT. 68

ASCENSION NO. 867

UPPER AIR DATA

0820003904

WHITE SANDS SITE

WSTM SITE COORDINATES

488500.00FEET E

185045.00FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
48500.0	130.9	-72.5	0.	**	227.3	551.6	337.2	29.0	1.000051
49000.0	127.6	-70.5	0.	**	219.3	554.3	335.5	30.1	1.000049
49500.0	124.4	-67.8	0.	**	211.0	558.0	336.0	30.6	1.000047
50000.0	121.3	-67.5	0.	**	205.5	558.3	339.8	30.1	1.000046
50500.0	118.2	-67.6	0.	**	200.4	558.3	343.7	29.7	1.000045
51000.0	115.3	-67.6	0.	**	195.5	558.2	345.0	29.8	1.000044
51500.0	112.4	-67.7	0.	**	190.7	558.1	345.9	29.9	1.000042
52000.0	109.6	-67.7	0.	**	186.0	558.1	346.3	29.9	1.000041
52500.0	106.9	-67.8	0.	**	181.4	558.0	345.2	29.3	1.000040
53000.0	104.2	-67.8	0.	**	176.9	557.9	344.2	28.7	1.000039
53500.0	101.6	-67.9	0.	**	172.5	557.9	344.5	28.2	1.000038
54000.0	99.1	-67.9	0.	**	168.3	557.8	345.9	27.8	1.000037
54500.0	96.6	-68.0	0.	**	164.1	557.7	347.3	27.5	1.000037
55000.0	94.2	-68.0	0.	**	160.1	557.7	348.0	27.2	1.000036
55500.0	91.9	-68.1	0.	**	156.1	557.6	348.6	27.0	1.000035
56000.0	89.6	-67.3	0.	**	151.7	558.6	348.7	25.4	1.000034
56500.0	87.4	-66.0	0.	**	147.0	560.4	346.8	24.5	1.000033
57000.0	85.3	-64.7	0.	**	142.5	562.1	345.0	22.5	1.000032
57500.0	83.2	-63.4	0.	**	138.2	563.9	342.8	20.8	1.000031
58000.0	81.1	-62.9	0.	**	134.5	564.6	340.5	19.3	1.000030
58500.0	79.1	-63.4	0.	**	131.5	563.9	338.2	17.7	1.000029
59000.0	77.2	-63.9	0.	**	128.6	563.2	338.8	15.6	1.000029
59500.0	75.3	-64.4	0.	**	125.7	562.6	339.6	13.5	1.000028
60000.0	73.5	-64.9	0.	**	122.9	561.9	342.2	12.2	1.000027
60500.0	71.7	-65.4	0.	**	120.2	561.2	348.3	12.8	1.000027
61000.0	69.9	-65.3	0.	**	117.3	561.4	354.4	13.3	1.000026
61500.0	68.3	-64.8	0.	**	114.2	562.0	355.6	12.5	1.000025
62000.0	66.6	-64.3	0.	**	111.1	562.7	355.2	11.2	1.000025
62500.0	65.0	-63.8	0.	**	108.2	563.3	355.3	10.0	1.000024
63000.0	63.4	-62.4	0.	**	105.4	564.0	358.8	9.0	1.000023

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL

24 OCT. 68

ASCENSION NO. 867

UPPER AIR DATA

0820003904

WHITE SANDS SITE

WSM SITE COORDINATES

488580.00FEET E

185045.00FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	61.9	-62.9	0.	-0.	102.6	564.6		2.2	8.1	1.000023
64000.0	60.4	-62.4	0.	-0.	99.9	565.3		6.4	7.0	1.000022
64500.0	59.0	-61.9	0.	-0.	97.2	565.9		11.0	5.8	1.000022
65000.0	57.5	-61.4	0.	-0.	94.7	566.6		14.9	4.8	1.000021
65500.0	56.1	-60.9	0.	-0.	92.2	567.2		14.2	5.0	1.000021
66000.0	54.8	-60.4	0.	-0.	89.7	567.9		13.5	5.2	1.000020
66500.0	53.5	-60.0	0.	-0.	87.4	568.5		354.8	4.8	1.000019
67000.0	52.2	-59.5	0.	-0.	85.1	569.2		327.8	4.0	1.000019
67500.0	50.9	-59.0	0.	-0.	82.8	569.8		303.8	3.4	1.000018
68000.0	49.7	-58.5	0.	-0.	80.6	570.5		288.7	3.4	1.000018
68500.0	48.5	-58.0	0.	-0.	78.5	571.1		273.7	3.4	1.000017
69000.0	47.3	-57.5	0.	-0.	76.5	571.8		263.2	3.2	1.000017
69500.0	46.2	-57.6	0.	-0.	74.7	571.6		253.9	3.0	1.000017
70000.0	45.1	-58.0	0.	-0.	73.0	571.2		246.8	2.7	1.000016
70500.0	44.0	-58.3	0.	-0.	71.4	570.7		248.0	2.0	1.000016
71000.0	43.0	-58.6	0.	-0.	69.8	570.3		249.2	1.2	1.000016
71500.0	41.9	-59.0	0.	-0.	68.2	569.9		256.1	1.0	1.000015
72000.0	40.9	-59.3	0.	-0.	66.7	569.4		271.9	1.8	1.000015
72500.0	40.0	-59.6	0.	-0.	65.2	569.0		287.7	2.6	1.000015
73000.0	39.0	-58.7	0.	-0.	63.4	570.2		296.0	2.8	1.000014
73500.0	38.1	-57.9	0.	-0.	61.7	571.3		297.7	2.3	1.000014
74000.0	37.2	-57.0	0.	-0.	59.9	572.5		299.4	1.8	1.000013
74500.0	36.3	-57.2	0.	-0.	58.6	572.2		317.7	1.7	1.000013
75000.0	35.5	-57.7	0.	-0.	57.3	571.6		344.6	1.9	1.000013
75500.0	34.6	-58.1	0.	-0.	56.1	571.0		11.4	2.0	1.000012
76000.0	33.8	-58.6	0.	-0.	54.9	570.3		39.6	2.3	1.000012
76500.0	33.0	-59.1	0.	-0.	53.7	569.7		68.0	2.5	1.000012
77000.0	32.2	-58.4	0.	-0.	52.3	570.6		96.5	2.7	1.000012
77500.0	31.4	-57.7	0.	-0.	50.9	571.6		67.2	2.1	1.000011
78000.0	30.7	-57.0	0.	-0.	49.5	572.5		32.2	1.3	1.000011

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA  
082000Z904  
WHITE SANDS SITE

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT 68 0350 HRS MDT  
ASCENSION NO. 867

WSTM SITE COORDINATES  
48580.00 FEET E  
185045.00 FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
78500.0	30.0	-56.3	0.	-0.	48.2	573.4	356.9	356.9	0.6	1.000011
79000.0	29.3	-55.6	0.	-0.	46.9	574.4	314.0	314.0	2.4	1.000010
79500.0	28.6	-55.2	0.	-0.	45.7	574.8	271.1	271.1	4.1	1.000010
80000.0	27.9	-55.1	0.	-0.	44.6	575.0	234.2	234.2	5.8	1.000010
80500.0	27.3	-54.9	0.	-0.	43.6	575.2	231.7	231.7	7.3	1.000010
81000.0	26.7	-54.8	0.	-0.	42.5	575.4	229.3	229.3	8.7	1.000009
81500.0	26.0	-54.7	0.	-0.	41.5	575.5	227.0	227.0	10.3	1.000009
82000.0	25.4	-54.5	0.	-0.	40.5	575.7	225.4	225.4	12.6	1.000009
82500.0	24.8	-54.4	0.	-0.	39.6	575.9	223.7	223.7	14.8	1.000009
83000.0	24.3	-54.3	0.	-0.	38.6	576.1	223.2	223.2	16.2	1.000009
83500.0	23.7	-54.1	0.	-0.	37.7	576.3	223.7	223.7	16.9	1.000008
84000.0	23.2	-54.0	0.	-0.	36.8	576.5	224.2	224.2	17.6	1.000008
84500.0	22.6	-53.8	0.	-0.	35.9	576.6	227.2	227.2	18.9	1.000008
85000.0	22.1	-53.7	0.	-0.	35.1	576.8	231.1	231.1	20.4	1.000008
85500.0	21.6	-53.6	0.	-0.	34.3	577.0	235.1	235.1	21.9	1.000008
86000.0	21.1	-53.4	0.	-0.	33.4	577.2	239.0	239.0	22.4	1.000007
86500.0	20.6	-53.3	0.	-0.	32.7	577.4	242.9	242.9	22.9	1.000007
87000.0	20.1	-53.2	0.	-0.	31.9	577.5	246.6	246.6	23.5	1.000007
87500.0	19.7	-53.0	0.	-0.	31.1	577.7	249.3	249.3	24.7	1.000007
88000.0	19.2	-52.9	0.	-0.	30.4	577.9	251.9	251.9	26.0	1.000007
88500.0	18.8	-52.7	0.	-0.	29.7	578.1	253.2	253.2	26.7	1.000007
89000.0	18.3	-52.6	0.	-0.	29.0	578.3	252.2	252.2	26.2	1.000006
89500.0	17.9	-52.5	0.	-0.	28.3	578.4	251.2	251.2	25.7	1.000006
90000.0	17.5	-52.3	0.	-0.	27.6	578.6	250.0	250.0	25.2	1.000006
90500.0	17.1	-52.2	0.	-0.	26.9	578.8	248.6	248.6	24.8	1.000006
91000.0	16.7	-52.1	0.	-0.	26.3	579.0	247.3	247.3	24.4	1.000006
91500.0	16.3	-51.9	0.	-0.	25.7	579.2	246.6	246.6	24.3	1.000006
92000.0	15.9	-51.8	0.	-0.	25.1	579.3	246.2	246.2	24.3	1.000006
92500.0	15.6	-51.6	0.	-0.	24.5	579.5	245.7	245.7	24.2	1.000005
93000.0	15.2	-51.5	0.	-0.	23.9	579.7	247.6	247.6	25.3	1.000005

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68 0350 HRS MDT  
ASCENSION NO. 867

UPPER AIR DATA  
0820003904  
WHITE SANDS SITE

WSTM SITE COORDINATES  
488580.00FEET E  
185045.00FEET N

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AYR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
93500.0	14.9	-51.4	0.	-0. **	23.3	579.9		249.5	26.5	1.000005
94000.0	14.5	-51.2	0.	-0. **	22.8	580.1		251.3	27.4	1.000005
94500.0	14.2	-51.1	0.	-0. **	22.2	580.2		252.2	27.8	1.000005
95000.0	13.8	-51.0	0.	-0. **	21.7	580.4		253.1	28.2	1.000005
95500.0	13.5	-50.8	0.	-0. **	21.2	580.6		254.0	28.9	1.000005
96000.0	13.2	-50.7	0.	-0. **	20.7	580.8		255.0	30.0	1.000005
96500.0	12.9	-50.5	0.	-0. **	20.2	581.0		255.9	31.1	1.000004
97000.0	12.6	-50.4	0.	-0. **	19.7	581.1				1.000004
97500.0	12.3	-50.3	0.	-0. **	19.3	581.3				1.000004
98000.0	12.0	-50.1	0.	-0. **	18.8	581.5				1.000004
98500.0	11.8	-50.0	0.	-0. **	18.4	581.7				1.000004
99000.0	11.5	-49.9	0.	-0. **	17.9	581.9				1.000004
99500.0	11.2	-49.7	0.	-0. **	17.5	582.0				1.000004

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68 0350 HRS MDT  
ASCENSION NO. 867

MANDATORY LEVELS  
0820003904  
WHITE SANDS SITE

WSTM SITE COORDINATES  
488580.00 FEET E  
185045.00 FEET N

TABLE VIII

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	CENPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5107.	11.3	-3.2	36.	154.9	9.6
800.0	6770.	11.0	-4.5	33.	113.8	10.9
750.0	8527.	8.1	-6.9	34.	141.8	4.5
700.0	10389.	6.1	-9.2	32.	309.6	8.3
650.0	12362.	1.1	-12.7	35.	317.4	12.8
600.0	14469.	-0.8	-15.0	33.	332.7	13.7
550.0	16732.	-4.8	-18.1	35.	340.0	12.1
500.0	19171.	-9.5	-22.5	34.	353.8	16.7
450.0	21815.	-14.9	-28.0	32.	334.0	22.1
400.0	24704.	-21.6	-34.4	31.	340.9	27.1
350.0	27879.	-30.0	-42.0	30.	337.8	26.5
300.0	31409.	-39.6	-51.1	29.**	355.6	29.4
250.0	35411.	-49.9	-66.9	12.**	26.0	35.5
200.0	40065.	-62.1	0.	-0.**	30.9	40.7
175.0	42729.	-69.0	0.	-0.**	20.4	40.1
150.0	45738.	-70.4	0.	-0.**	5.1	35.8
125.0	49278.	-68.3	0.	-0.**	335.1	30.7
100.0	53683.	-67.9	0.	-0.**	345.4	27.9
80.0	58120.	-63.2	0.	-0.**	339.2	18.4
70.0	60798.	-65.3	0.	-0.**	354.1	13.3
60.0	63899.	-62.3	0.	-0.**	7.2	6.8
50.0	67626.	-58.6	0.	-0.**	293.4	3.4
40.0	71232.	-59.6	0.	-0.**	287.2	2.6
30.0	78182.	-56.3	0.	-0.**	358.9	0.6
25.0	82003.	-54.4	0.	-0.**	224.3	14.0
20.0	86707.	-53.1	0.	-0.**	247.0	23.6
15.0	92814.	-51.4	0.	-0.**	248.5	25.8

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 68  
SCENSION NO. 868

SIGNIFICANT LEVEL DATA  
0800003904  
WHITE SANDS SITE

WSTM SITE COORDINATES  
488580.00FEET E  
185045.00FEET N

TABLE IX

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
887.0	3989.0	9.0	-2.0	46.0
877.0	4298.9	11.7	0.2	45.0
764.0	8052.7	6.5	-2.6	52.0
740.0	8911.0	5.0	-5.7	46.0
732.0	9203.6	7.1	-6.3	38.0
583.0	15260.2	-1.1	-15.4	33.0
524.0	18027.8	-6.9	-18.9	38.0
496.0	19433.3	-8.3	-22.9	30.0
484.0	20057.2	-9.3	-25.8	25.0
410.0	24203.0	-18.4	-33.3	26.0
295.0	31954.7	-39.2	-50.1	31.0
240.0	36494.1	-50.8	0.	-0. **
184.0	42027.8	-63.7	0.	-0. **
147.0	46465.4	-73.0	0.	-0. **
140.0	47414.0	-70.6	0.	-0. **
124.0	49775.4	-72.7	0.	-0. **
117.0	50913.1	-68.2	0.	-0. **
102.0	53632.0	-67.8	0.	-0. **
92.0	55695.8	-64.5	0.	-0. **
82.0	58008.9	-65.8	0.	-0. **
75.0	59804.2	-64.2	0.	-0. **
63.0	63326.4	-64.2	0.	-0. **
61.0	63984.9	-60.0	0.	-0. **
54.0	66488.3	-61.6	0.	-0. **
43.0	71204.0	-56.7	0.	-0. **
30.0	78763.2	-55.7	0.	-0. **
27.0	80995.9	-53.0	0.	-0. **
21.0	86311.9	-56.6	0.	-0. **
16.0	92073.6	-52.5	0.	-0. **
11.0	100111.3	-51.4	0.	-0. **
7.1	109711.7	-43.0	0.	-0. **

\*\* RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

UPPER AIR DATA  
08000003904  
WHITE SANDS SITE

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68 0705 HRS MDT  
ASCENSION NO. 868

WSTM SITE COORDINATES  
488580.00FEET E  
185045.00FEET N

TABLE X

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
3989.0	887.0	9.0	-2.0	46.0	1092.9	654.8	210.0	6.0	1.000269
4090.0	886.6	9.1	-1.9	46.0	1092.0	654.9	209.6	6.1	1.000269
4500.0	870.5	11.4	0.0	45.4	1063.0	657.7	190.9	8.3	1.000265
5000.0	854.7	10.7	-0.3	46.3	1046.2	656.9	172.2	10.5	1.000261
5500.0	839.1	10.0	-0.7	47.2	1029.7	656.1	153.5	12.7	1.000257
6000.0	823.9	9.3	-1.0	48.2	1013.5	655.3	134.7	14.9	1.000253
6500.0	808.9	8.7	-1.4	49.1	997.5	654.5	123.7	15.5	1.000248
7000.0	794.1	8.0	-1.8	50.0	981.8	653.7	126.9	13.3	1.000244
7500.0	779.7	7.3	-2.2	51.0	966.3	652.9	133.3	10.0	1.000240
8000.0	765.5	6.6	-2.6	51.9	951.1	652.0	143.1	5.6	1.000236
8500.0	751.4	5.7	-4.2	48.9	936.7	651.0	86.2	3.7	1.000231
9000.0	737.6	5.6	-5.8	43.6	919.9	650.8	353.0	3.2	1.000224
9500.0	723.9	6.7	-6.7	37.8	899.5	652.0	330.7	5.7	1.000218
10000.0	710.4	6.0	-7.5	37.3	885.0	651.2	325.7	9.0	1.000214
10500.0	697.2	5.3	-8.2	36.9	870.7	650.4	326.6	11.6	1.000210
11000.0	684.2	4.7	-9.0	36.5	856.6	649.6	327.1	14.0	1.000206
11500.0	671.5	4.0	-9.7	36.1	842.8	648.8	323.0	15.4	1.000202
12000.0	659.0	3.3	-10.5	35.7	829.2	647.9	320.4	16.5	1.000198
12500.0	646.7	2.6	-11.2	35.3	815.8	647.1	320.7	16.9	1.000195
13000.0	634.7	2.0	-12.0	34.9	802.6	646.3	322.3	17.2	1.000191
13500.0	622.9	1.3	-12.7	34.5	789.7	645.5	324.9	17.0	1.000188
14000.0	611.3	0.6	-13.5	34.0	776.9	644.7	328.4	17.1	1.000184
14500.0	599.9	-0.1	-14.2	33.6	764.4	643.9	332.3	17.3	1.000181
15000.0	588.7	-0.7	-15.0	33.2	752.1	643.0	334.3	17.4	1.000177
15500.0	577.6	-1.6	-15.7	33.4	740.3	642.0	335.9	17.4	1.000174
16000.0	566.6	-2.7	-16.3	34.3	729.0	640.8	335.8	17.7	1.000171
16500.0	555.8	-3.7	-16.9	35.2	717.9	639.5	335.4	18.1	1.000168
17000.0	545.2	-4.7	-17.6	36.1	706.9	638.3	337.4	19.0	1.000166
17500.0	534.8	-5.8	-18.2	37.0	696.2	637.0	339.6	19.8	1.000163
18000.0	524.6	-6.8	-18.9	37.9	685.6	635.7	343.0	20.1	1.000160

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68 0705 HRS MDT  
ASCENSION NO. 868

UPPER AIR DATA  
0800003904  
WHITE SANDS SITE  
TABLE X (Cont)

WSTM SITE COORDINATES  
48°58'00" N  
185°04'50" W

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
18500.0	514.4	-7.4	-20.2	35.3	673.8	635.1	346.5	20.5	1.000157
19000.0	504.5	-7.9	-21.6	32.5	662.0	634.5	350.6	21.3	1.000153
19500.0	494.7	-8.4	-23.2	29.5	650.6	633.8	353.5	21.9	1.000150
20000.0	485.1	-9.2	-25.5	25.5	640.0	632.8	353.8	22.0	1.000147
20500.0	475.5	-10.3	-26.6	25.1	629.9	631.5	354.1	22.8	1.000144
21000.0	466.1	-11.4	-27.5	25.2	620.0	630.2	354.2	24.5	1.000142
21500.0	456.8	-12.5	-28.4	25.3	610.3	628.8	354.5	25.9	1.000139
22000.0	447.8	-13.6	-29.2	25.5	600.7	627.5	355.1	26.8	1.000137
22500.0	438.9	-14.7	-30.2	25.6	591.4	626.2	355.6	27.6	1.000135
23000.0	430.2	-15.8	-31.1	25.7	582.1	624.8	356.0	28.3	1.000132
23500.0	421.7	-16.9	-32.0	25.8	573.1	623.5	355.9	28.7	1.000130
24000.0	413.3	-18.0	-32.9	26.0	564.1	622.1	355.0	28.7	1.000128
24500.0	404.9	-19.2	-33.9	26.2	555.3	620.6	354.1	28.7	1.000126
25000.0	396.4	-20.5	-35.0	26.5	546.5	619.0	353.6	28.9	1.000124
25500.0	388.0	-21.9	-36.0	26.8	537.9	617.3	353.5	29.2	1.000121
26000.0	379.9	-23.2	-37.1	27.2	529.4	615.6	354.2	29.7	1.000119
26500.0	371.9	-24.6	-38.1	27.5	521.1	614.0	354.9	30.2	1.000117
27000.0	364.1	-25.9	-39.2	27.8	513.0	612.3	355.2	30.7	1.000115
27500.0	356.4	-27.2	-40.3	28.1	504.9	610.7	355.5	31.0	1.000114
28000.0	348.9	-28.6	-41.4	28.4	497.0	609.0	355.5	30.7	1.000112
28500.0	341.6	-29.9	-42.5	28.8	489.3	607.3	355.5	30.6	1.000110
29000.0	334.4	-31.3	-43.6	29.1	481.7	605.6	356.4	30.9	1.000108
29500.0	327.4	-32.6	-44.6	29.4	474.2	603.9	357.4	31.2	1.000106
30000.0	320.5	-34.0	-45.7	29.7	466.8	602.2	359.0	31.0	1.000105
30500.0	313.8	-35.3	-46.8	30.1	459.6	600.6	0.8	30.5	1.000103
31000.0	307.2	-36.6	-48.0	30.4	452.5	598.9	3.4	28.2	1.000101
31500.0	300.8	-38.0	-49.1	30.7	445.5	597.1	5.0	26.3	1.000100
32000.0	294.4	-39.3	-50.3	30.7**	438.6	595.4	5.8	29.8	1.000098
32500.0	287.8	-40.6	-52.4	27.3**	431.1	593.8	5.7	33.2	1.000096
33000.0	281.3	-41.9	-54.7	23.9**	423.8	592.2	6.3	33.8	1.000095

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 3989.00 FEET MSL

24 OCT. 68

ASCENSION NO. 868

UPPER AIR DATA

0800003904

WHITE SANDS SITE

MSTN SITE COORDINATES

48580.00 FEET E

189045.00 FEET N

0705 HRS MDT

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
33500.0	275.0	-43.1	-57.0	20.4**	416.6	590.5		6.8	34.3	1.000093
34000.0	268.8	-44.4	-59.6	17.0**	409.5	588.9		6.7	37.6	1.000091
34500.0	262.8	-45.7	-62.3	13.6**	402.5	587.2		6.7	40.8	1.000090
35000.0	256.9	-47.0	-65.5	10.2**	395.7	585.6		9.5	37.3	1.000088
35500.0	251.1	-48.3	-69.5	6.8**	389.0	583.9		12.3	33.9	1.000087
36000.0	245.5	-49.5	-75.1	3.4**	382.4	582.3		15.2	34.1	1.000085
36500.0	239.9	-50.8	0.	-0. **	376.0	580.6		18.0	34.4	1.000084
37000.0	234.2	-52.0	0.	-0. **	369.0	579.1		19.7	35.9	1.000082
37500.0	228.7	-53.1	0.	-0. **	362.2	577.5		21.6	37.2	1.000081
38000.0	223.3	-54.3	0.	-0. **	355.4	576.0		24.4	37.9	1.000079
38500.0	218.0	-55.5	0.	-0. **	348.9	574.5		26.8	38.9	1.000078
39000.0	212.8	-56.6	0.	-0. **	342.4	572.9		27.9	41.7	1.000076
39500.0	207.7	-57.8	0.	-0. **	336.1	571.4		28.9	44.1	1.000075
40000.0	202.8	-59.0	0.	-0. **	329.9	569.8		28.8	41.2	1.000073
40500.0	198.0	-60.1	0.	-0. **	323.9	568.3		28.7	38.3	1.000072
41000.0	193.3	-61.3	0.	-0. **	317.9	566.7		26.4	39.0	1.000071
41500.0	188.7	-62.5	0.	-0. **	312.1	565.2		23.8	40.2	1.000069
42000.0	184.2	-63.6	0.	-0. **	306.4	563.6		26.4	40.4	1.000068
42500.0	179.7	-64.7	0.	-0. **	300.3	562.2		32.1	39.9	1.000067
43000.0	175.2	-65.7	0.	-0. **	294.3	560.8		35.3	40.4	1.000066
43500.0	170.8	-66.8	0.	-0. **	288.4	559.4		35.1	42.1	1.000064
44000.0	166.5	-67.8	0.	-0. **	282.6	557.9		35.1	43.1	1.000063
44500.0	162.4	-68.9	0.	-0. **	276.9	556.5		35.8	42.5	1.000062
45000.0	158.3	-69.9	0.	-0. **	271.4	555.1		35.8	41.8	1.000060
45500.0	154.4	-71.0	0.	-0. **	266.0	553.6		27.9	40.6	1.000059
46000.0	150.5	-72.0	0.	-0. **	260.7	552.2		20.0	39.5	1.000058
46500.0	146.7	-72.9	0.	-0. **	255.3	551.0		15.1	39.1	1.000057
47000.0	143.0	-71.6	0.	-0. **	247.3	552.7		10.7	38.9	1.000055
47500.0	139.4	-70.7	0.	-0. **	239.8	554.1		3.8	37.8	1.000053
48000.0	135.8	-71.1	0.	-0. **	234.3	553.5		355.2	36.3	1.000052

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68 0705 HRS MDT  
ASCENSION NO. 868

UPPER AIR DATA  
WHITT 0003904  
SIT

WSTM SITE COORDINATES  
488580.00FEET E  
185045.00FEET N

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
48500.0	132.4	-71.6	0.	-0. **	228.8	552.8	348.2	35.5	1.000051	
49000.0	129.0	-72.0	0.	-0. **	223.5	552.2	343.6	35.9	1.000050	
49500.0	125.8	-72.5	0.	-0. **	218.3	551.6	340.3	36.1	1.000049	
50000.0	122.6	-71.8	0.	-0. **	212.1	552.5	341.6	36.0	1.000047	
50500.0	119.5	-69.8	0.	-0. **	204.8	555.2	343.1	35.9	1.000046	
51000.0	116.5	-68.2	0.	-0. **	198.0	557.5	348.1	36.8	1.000044	
51500.0	113.6	-68.1	0.	-0. **	193.0	557.6	353.2	37.6	1.000043	
52000.0	110.8	-68.0	0.	-0. **	188.1	557.7	354.2	36.6	1.000042	
52500.0	108.0	-68.0	0.	-0. **	183.4	557.8	354.3	35.1	1.000041	
53000.0	105.3	-67.9	0.	-0. **	178.8	557.9	354.5	33.4	1.000040	
53500.0	102.7	-67.8	0.	-0. **	174.2	558.0	354.7	31.6	1.000039	
54000.0	100.1	-67.2	0.	-0. **	169.4	558.8	355.1	29.5	1.000038	
54500.0	97.7	-66.4	0.	-0. **	164.6	559.9	355.7	26.3	1.000037	
55000.0	95.3	-65.6	0.	-0. **	159.9	560.9	356.3	23.1	1.000036	
55500.0	92.9	-64.8	0.	-0. **	155.4	562.0	356.9	20.7	1.000035	
56000.0	90.6	-64.7	0.	-0. **	151.4	562.2	357.5	18.3	1.000034	
56500.0	88.4	-65.0	0.	-0. **	147.9	561.8	357.4	17.5	1.000033	
57000.0	86.2	-65.2	0.	-0. **	144.5	561.5	356.5	18.0	1.000032	
57500.0	84.1	-65.5	0.	-0. **	141.1	561.1	355.6	18.8	1.000031	
58000.0	82.0	-65.8	0.	-0. **	137.8	560.7	354.5	20.4	1.000031	
58500.0	80.0	-65.4	0.	-0. **	134.2	561.3	353.4	22.1	1.000030	
59000.0	78.1	-64.9	0.	-0. **	130.6	561.9	353.3	22.7	1.000029	
59500.0	76.1	-64.5	0.	-0. **	127.1	562.5	353.4	23.1	1.000028	
60000.0	74.3	-64.2	0.	-0. **	123.9	562.9	353.7	22.5	1.000028	
60500.0	72.5	-64.2	0.	-0. **	120.8	562.9	354.5	20.8	1.000027	
61000.0	70.7	-64.2	0.	-0. **	117.9	562.9	355.3	18.9	1.000026	
61500.0	69.0	-64.2	0.	-0. **	115.0	562.9	356.0	15.9	1.000026	
62000.0	67.3	-64.2	0.	-0. **	112.2	562.9	356.7	12.9	1.000025	
62500.0	65.6	-64.2	0.	-0. **	109.4	562.9	1.2	11.7	1.000024	
63000.0	64.0	-64.2	0.	-0. **	106.8	562.9	7.6	11.4	1.000024	

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68  
ASCENSION NO. 658

UPPER AIR DATA  
0800003904  
WHITF SANDS SITE

WSTM SITE COORDINATES  
488580.00FEET E  
185045.00FEET N

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF. REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			DIRECTION DEGREES(TN)	SPEED KNOTS			
63500.0	62.5	-63.1	0.	-0. **	103.6	564.3	13.8	10.9	1.000023	
64000.0	61.0	-60.0	0.	-0. **	99.6	568.5	14.9	9.6	1.000022	
64500.0	59.5	-50.3	0.	-0. **	97.4	568.0	25.9	8.4	1.000022	
65000.0	58.1	-60.6	0.	-0. **	95.2	567.6	33.5	7.7	1.000021	
65500.0	56.7	-61.0	0.	-0. **	93.0	567.2	41.8	7.2	1.000021	
66000.0	55.3	-61.3	0.	-0. **	90.9	566.8	49.3	6.7	1.000020	
66500.0	54.0	-61.6	0.	-0. **	88.9	566.4	53.6	5.9	1.000020	
67000.0	52.7	-61.1	0.	-0. **	86.5	567.1	57.8	5.2	1.000019	
67500.0	51.4	-60.5	0.	-0. **	84.3	567.7	62.4	4.3	1.000019	
68000.0	50.2	-60.0	0.	-0. **	82.1	568.4	67.1	3.4	1.000018	
68500.0	49.0	-59.5	0.	-0. **	79.9	569.1	70.3	2.6	1.000018	
69000.0	47.8	-59.0	0.	-0. **	77.8	569.8	51.2	2.6	1.000017	
69500.0	46.7	-58.5	0.	-0. **	75.8	570.5	32.0	2.7	1.000017	
70000.0	45.6	-58.0	0.	-0. **	73.8	571.2	19.0	2.4	1.000016	
70500.0	44.5	-57.4	0.	-0. **	71.9	571.9	12.3	1.9	1.000016	
71000.0	43.4	-56.9	0.	-0. **	70.0	572.6	5.5	1.4	1.000016	
71500.0	42.4	-56.7	0.	-0. **	68.2	572.9	38.6	1.2	1.000015	
72000.0	41.4	-56.6	0.	-0. **	66.6	573.0	74.7	1.0	1.000015	
72500.0	40.4	-56.5	0.	-0. **	65.0	573.1	107.5	1.0	1.000014	
73000.0	39.5	-56.5	0.	-0. **	63.5	573.1	133.5	1.7	1.000014	
73500.0	38.5	-56.4	0.	-0. **	62.0	573.1	159.5	2.3	1.000014	
74000.0	37.6	-56.3	0.	-0. **	60.5	573.1	136.2	2.1	1.000013	
74500.0	36.9	-56.3	0.	-0. **	59.0	573.1	95.0	1.6	1.000013	
75000.0	35.9	-56.2	0.	-0. **	57.6	573.5	57.4	1.1	1.000013	
75500.0	35.0	-56.1	0.	-0. **	56.3	573.6	102.6	1.6	1.000013	
76000.0	34.2	-56.1	0.	-0. **	54.9	573.7	147.8	2.2	1.000012	
76500.0	33.4	-56.0	0.	-0. **	53.6	573.8	183.6	2.7	1.000012	
77000.0	32.6	-55.9	0.	-0. **	52.3	573.9	175.3	3.1	1.000012	
77500.0	31.9	-55.9	0.	-0. **	51.1	574.0	167.0	3.5	1.000011	
78000.0	31.1	-55.8	0.	-0. **	49.9	574.1	161.3	4.0	1.000011	

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68 0705 HRS MDT  
ASCENSION NO. 868

UPPER AIR DATA  
Q800003904  
WHITE SANDS SITE

WSTM SITE COORDINATES  
488580.00FEET E  
1R5045.00FEET N

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
78500.0	30.4	-55.7	0.	-0. **	48.7	574.1	165.0	165.0	5.0	1.000011
79000.0	29.7	-55.4	0.	-0. **	47.5	574.6	168.7	168.7	6.0	1.000011
79500.0	29.0	-54.8	0.	-0. **	46.2	575.4	170.9	170.9	6.5	1.000010
80000.0	28.3	-54.2	0.	-0. **	45.0	576.2	168.9	168.9	5.8	1.000010
80500.0	27.6	-53.6	0.	-0. **	43.9	577.0	166.8	166.8	5.2	1.000010
81000.0	27.0	-53.0	0.	-0. **	42.7	577.7	170.3	170.3	4.7	1.000010
81500.0	26.4	-53.3	0.	-0. **	41.8	577.3	188.3	188.3	5.1	1.000009
82000.0	25.7	-53.7	0.	-0. **	40.9	576.8	206.4	206.4	5.4	1.000009
82500.0	25.1	-54.0	0.	-0. **	40.0	576.4	220.9	220.9	5.7	1.000009
83000.0	24.6	-54.4	0.	-0. **	39.1	576.0	227.0	227.0	5.8	1.000009
83500.0	24.0	-54.7	0.	-0. **	38.3	575.5	233.2	233.2	5.9	1.000009
84000.0	23.4	-55.0	0.	-0. **	37.4	575.1	240.8	240.8	6.4	1.000008
84500.0	22.9	-55.4	0.	-0. **	36.6	574.6	251.7	251.7	7.8	1.000008
85000.0	22.3	-55.7	0.	-0. **	35.8	574.2	262.6	262.6	9.2	1.000008
85500.0	21.8	-56.1	0.	-0. **	35.0	573.7	272.1	272.1	10.5	1.000008
86000.0	21.3	-56.4	0.	-0. **	34.3	573.3	276.7	276.7	11.5	1.000008
86500.0	20.8	-56.5	0.	-0. **	33.5	573.2	281.3	281.3	12.5	1.000007
87000.0	20.3	-56.1	0.	-0. **	32.6	573.6	285.9	285.9	13.5	1.000007
87500.0	19.9	-55.8	0.	-0. **	31.8	574.1	284.9	284.9	14.8	1.000007
88000.0	19.4	-55.4	0.	-0. **	31.0	574.6	283.0	283.0	16.1	1.000007
88500.0	18.9	-55.0	0.	-0. **	30.3	575.1	281.0	281.0	17.4	1.000007
89000.0	18.5	-54.7	0.	-0. **	29.5	575.5	279.6	279.6	18.5	1.000007
89500.0	18.1	-54.3	0.	-0. **	28.8	576.0	279.4	279.4	19.4	1.000006
90000.0	17.6	-54.0	0.	-0. **	28.0	576.5	279.2	279.2	20.4	1.000006
90500.0	17.2	-53.6	0.	-0. **	27.4	576.9	279.0	279.0	21.3	1.000006
91000.0	16.8	-53.3	0.	-0. **	26.7	577.4	274.9	274.9	21.8	1.000006
91500.0	16.4	-52.9	0.	-0. **	26.0	577.9	270.2	270.2	22.3	1.000006
92000.0	16.1	-52.6	0.	-0. **	25.4	578.3	265.4	265.4	22.8	1.000006
92500.0	15.7	-52.4	0.	-0. **	24.8	578.5	262.2	262.2	23.3	1.000006
93000.0	15.3	-52.4	0.	-0. **	24.2	578.6	262.1	262.1	24.0	1.000005

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68 0705 HRS MDT  
ASCENSION NO. 868

UPPER AIR DATA  
0800003904  
WHITE SANDS SITE

WSTM SITE COORDINATES  
488580.00 FEET E  
185045.00 FEET N

TABLE X (Cont.)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
93500.0	15.0	-52.3	0.	-0. **	23.6	578.7	261.9	261.9	24.6	1.000005
94000.0	14.6	-52.2	0.	-0. **	23.1	578.7	261.8	261.8	25.3	1.000005
94500.0	14.3	-52.2	0.	-0. **	22.5	578.8	260.7	260.7	25.5	1.000005
95000.0	14.0	-52.1	0.	-0. **	22.0	578.9	259.4	259.4	25.6	1.000005
95500.0	13.6	-52.0	0.	-0. **	21.5	579.0	258.1	258.1	25.7	1.000005
96000.0	13.3	-52.0	0.	-0. **	21.0	579.1	257.3	257.3	25.8	1.000005
96500.0	13.0	-51.9	0.	-0. **	20.5	579.2	258.0	258.0	25.8	1.000005
97000.0	12.7	-51.8	0.	-0. **	20.0	579.3	258.6	258.6	25.9	1.000004
97500.0	12.4	-51.8	0.	-0. **	19.6	579.4	259.2	259.2	26.0	1.000004
98000.0	12.1	-51.7	0.	-0. **	19.1	579.5	259.5	259.5	27.0	1.000004
98500.0	11.9	-51.6	0.	-0. **	18.6	579.5	258.9	258.9	28.3	1.000004
99000.0	11.6	-51.6	0.	-0. **	18.2	579.6	258.6	258.6	29.6	1.000004
99500.0	11.3	-51.5	0.	-0. **	17.8	579.7	258.3	258.3	31.0	1.000004
100000.0	11.1	-51.4	0.	-0. **	17.4	579.8	258.0	258.0	32.5	1.000004
100500.0	10.8	-51.1	0.	-0. **	17.0	580.3	257.7	257.7	34.0	1.000004
101000.0	10.6	-50.6	0.	-0. **	16.5	580.9	257.4	257.4	35.5	1.000004
101500.0	10.3	-50.2	0.	-0. **	16.1	581.4	257.9	257.9	36.1	1.000004
102000.0	10.1	-49.7	0.	-0. **	15.7	582.0	258.8	258.8	36.2	1.000004
102500.0	9.9	-49.3	0.	-0. **	15.4	582.6	259.8	259.8	36.3	1.000003
103000.0	9.6	-48.9	0.	-0. **	15.0	583.1	260.7	260.7	36.4	1.000003
103500.0	9.4	-48.4	0.	-0. **	14.6	583.7	261.6	261.6	36.6	1.000003
104000.0	9.2	-48.0	0.	-0. **	14.3	584.3	262.4	262.4	36.8	1.000003
104500.0	9.0	-47.6	0.	-0. **	13.9	584.8	263.2	263.2	37.0	1.000003
105000.0	8.8	-47.1	0.	-0. **	13.6	585.4	263.3	263.3	36.2	1.000003
105500.0	8.6	-46.7	0.	-0. **	13.2	586.0	261.8	261.8	33.6	1.000003
106000.0	8.4	-46.2	0.	-0. **	12.9	586.5	260.3	260.3	31.0	1.000003
106500.0	8.2	-45.8	0.	-0. **	12.6	587.1	258.8	258.8	28.4	1.000003
107000.0	8.0	-45.4	0.	-0. **	12.3	587.7				1.000003
107500.0	7.9	-44.9	0.	-0. **	12.0	588.2				1.000003
108000.0	7.7	-44.5	0.	-0. **	11.7	588.8				1.000003

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
 24 OCT. 68  
 ASCENSION NO. 868

UPPER AIR DATA  
 0800003904  
 WHITE SANDS SITE

WSTM SITE COORDINATES  
 488580.00FEET E  
 185045.00FEET N

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
108500.0	7.5	-44.1	0.	-0. **	11.4	589.4				1.000003
109000.0	7.3	-43.6	0.	-0. **	11.1	589.9				1.000002
109500.0	7.2	-43.2	0.	-0. **	10.9	590.5				1.000002

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
24 OCT. 68  
ASCENSION NO. 868

MANDATORY LEVELS  
08000003904  
WHITE SANDS SITE

0705 HRS MDT

WSTM SITE COORDINATES  
488180.00 FEET E  
185045.00 FEET N

TABLE XI

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5154.	10.5	-0.4	47.	166.3	11.2
800.0	6805.	8.2	-1.7	50.	125.7	11.2
750.0	8545.	5.6	-4.4	49.	76.9	3.7
700.0	10401.	5.5	-8.1	37.	326.4	11.1
650.0	12379.	2.8	-11.0	35.	320.6	16.8
600.0	14494.	-0.1	-14.2	34.	332.3	17.3
550.0	16764.	-4.3	-17.3	36.	336.5	18.6
500.0	19209.	-8.1	-22.3	31.	352.4	21.6
450.0	21870.	-13.3	-29.1	29.	355.0	26.6
400.0	24775.	-20.0	-34.5	26.	353.8	28.8
350.0	27971.	-28.4	-41.2	20.	355.5	30.7
300.0	31525.	-38.1	-49.2	31.	5.8	26.8
250.0	35551.	-48.5	-70.3	6.**	13.0	33.9
200.0	40246.	-59.7	0.	-0.**	28.7	39.3
175.0	42945.	-65.8	0.	-0.**	35.3	40.5
150.0	45970.	-72.2	0.	-0.**	18.9	39.3
125.0	49499.	-72.6	0.	-0.**	340.6	36.1
100.0	53882.	-67.2	0.	-0.**	355.1	29.4
80.0	58335.	-65.4	0.	-0.**	353.6	22.1
70.0	61013.	-64.2	0.	-0.**	355.6	17.7
60.0	64121.	-60.2	0.	-0.**	23.8	8.8
50.0	67841.	-59.9	0.	-0.**	67.7	3.3
40.0	72460.	-56.5	0.	-0.**	118.5	1.3
30.0	78460.	-55.7	0.	-0.**	166.9	5.5
25.0	82300.	-54.1	0.	-0.**	222.4	5.7
20.0	86966.	-55.9	0.	-0.**	285.6	14.3
15.0	93031.	-52.3	0.	-0.**	261.9	24.6
10.0	101666.	-49.6	0.	-0.**	259.1	36.2

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

RELEASE TIME (MDT)		SECOND-STAGE IMPACT DISPLACEMENT IN MILES DUE TO WIND										AZI- MUTH (DEG- DEGS)	THEORETICAL IMPACT FROM LAUNCHER (IN MILES)		
		15-216 FT				216-4000 FT				TOTAL					
		N-S		E-W		N-S		E-W		N-S					
RAWIN- SONDE	PIBAL	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	RANGE	N-S	E-W			
0350	0507	10.6S	2.3W	13.1S	10.2E	15.7N	12.3E	8.0S	24.1E	359.7	70.6	70.6N	0.4W		
0350	0517	12.3S	1.5W	14.4S	16.5E	15.7N	12.3E	11.0S	27.3E	357.6	67.7	67.6N	2.8W		
0350	0552	8.9S	2.0W	14.5S	14.9E	15.7N	12.3E	7.7S	25.2E	359.4	70.9	70.9N	0.7W		
0350	0610	8.1S	2.7W	15.2S	12.8E	15.7N	12.3E	7.6S	22.4E	358.3	71.0	71.0N	2.1W		
0350	0620	8.3S	3.3W	13.2S	12.3E	15.7N	12.3E	5.8S	21.3E	357.5	72.9	72.8N	3.2W		
0350	0630	7.3S	3.7W	15.8S	14.0E	15.7N	12.3E	7.4S	22.6E	358.5	71.2	71.2N	1.9W		
0350	0640	6.5S	0.1W	13.7S	11.4E	15.7N	12.3E	4.5S	21.6E	359.3	74.1	74.1N	0.9W		
0350	0650	6.7S	2.1W	14.2S	9.7E	15.7N	12.3E	5.7S	19.9E	356.4	73.5	73.4N	4.6W		
0705*	0705*	4.8S	3.2W	13.4S	10.0E	15.3N	9.4E	2.9S	16.2E	353.9	76.2	75.7N	8.3W		

\*Post-Shoot Data

LAUNCHER SETTING (ELEVATION 34.4 DEGREES QE)	AZI- MUTH (DEG- REES)	MILES FROM LAUNCHER		
		RANGE	N-S	E-W
NO WIND IMPACT	346.0	81.0	78.6N	19.6W
PREDICTED SECOND-STAGE IMPACT	343.0	82.3	78.6N	24.5W
SECOND-STAGE IMPACT, RECOVERY	358.0	71.0	71.0N	2.5W
PREDICTED BOOSTER IMPACT	348.9	90.3	89.6N	17.5W
ACTUAL BOOSTER IMPACT	356.0	1.1	1.1N	0.8W
	N/A	N/A	N/A	N/A

TABLE XII. IMPACT PREDICTION DATA  
NI/E-HYDAC STV, SN-077



UNCLASSIFIED

Security Classification

## DOCUMENT CONTROL DATA - R &amp; D

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13. ABSTRACT  <p>➤ Meteorological data gathered for the launching of Nike-Hydac STV, SR-077, are presented for the Space and Missile Systems Organization, AFMDC, Holloman Air Force Base, New Mexico, and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.</p>			

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